



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,416	06/24/2005	Hajime Fukui	1232-5691	9225
27123	7590	02/02/2009		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101				
EXAMINER				
JERABEK, KELLY L				
ART UNIT		PAPER NUMBER		
2622				
NOTIFICATION DATE		DELIVERY MODE		
02/02/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com

Shopkins@Morganfinnegan.com

jmedina@Morganfinnegan.com

Office Action Summary

Application No.

10/540,416

Applicant(s)

FUKUI, HAJIME

Examiner

KELLY L. JERABEK

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-10, 15-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-10, 15-22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/1/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 3 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-10, 15-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sannoh et al. US 2003/0071908 in view of Nozaki et al. US 2004/0207743 and further in view of Matsushita US 2005/0062856.

Re claims 3 and 15, Sannoh discloses an image capturing apparatus (digital camera) and method of controlling an image capturing apparatus (digital camera) comprising: an area detection unit (CPU 115a) configured to extract an outline of a captured image of the object that receives light emitted by a light emitting unit (203) and to detect an area occupied by a predetermined shape defined by an edge in the captured image of the object (CPU 115a performs face detection processing to detect facial features in captured images), in a case where a brightness of the object is less than a predetermined value (when the photometric value is less than a certain threshold) (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212); a light control area setting unit (CPU 115a) configured to set a light control area of a light emitting unit (203) (flash emission is controlled in accordance with the face detection) in the captured image in accordance with the area determined by the area detection unit (CPU 115a performs face detection processing) (page 14, paragraph 203-page 15, paragraph 218); an arithmetic unit (IPP 104) configured to calculate a main light emitting amount in a main light emission in accordance with a photometry value in the light control area of a captured image of the object (page 13, paragraph 200-page 14, paragraph 204); and a control unit (CPU 115a) configured to control to photograph the object in the main light emission by controlling the light emitting unit

(203) on the basis of the main light emitting amount calculated by the arithmetic unit (IPP 104) (page 13, paragraph 195; page 14, paragraphs 203-212). Sannoh further states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69). In addition, Sannoh discloses that the camera is capable of operating in a red-eye emission mode for reducing red-eye effects on captured images (page 14, paragraph 214). However, although the Sannoh reference discloses all of the above limitations it fails to specifically state that the auto-exposure and face detection processing includes a pre-light emission operation that is executed prior to a main light emission and that a main light emitting amount is calculated in accordance with a photometry value based on a pre-light emission.

Nozaki discloses a digital camera system including face detection processing and auto-exposure processing. Nozaki states that when the luminance of a subject is less than a given value, a CPU of the camera sets a pre-emitting mode for emitting light prior to shooting in order to reduce red-eye effects and the emission quantity of a main light emitting amount is determined on the basis of the reflected light from the face upon the pre-emission of light (page 11, paragraph 117-page 12, paragraph 120). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a pre-emitting mode for determining a proper emission amount of a main light emission as disclosed by Nozaki in the digital camera including auto-exposure and face detection processing disclosed by Sannoh. Doing so would provide a means for ensuring that an image of a subject is captured with a proper exposure.

Although the combination of the Sannoh and Nozaki references discloses all of the above limitations including using a face recognition algorithm and a pre-light emission prior to a main light emission, the Nozaki reference determines an area of a face before the pre-light emission. Therefore, neither reference specifically discloses an area detection unit that detects, on the basis of a captured image of an object photographed based on a pre-light emission prior to a main light emission, an edge in the captured image of an object.

However, Matsushita discloses a digital camera equipped with a red-eye correction feature. Matsushita discloses that it is well known in the digital imaging art for digital cameras to be equipped with a preliminary electronic flash feature that fires an electronic flash before photographing in order to reduce the opening of the pupils of a subject as a cause of red-eye effect, and then performing electronic flash photography (page 1, paragraphs 5-7). Additionally, the Matsushita reference discloses that the digital still camera includes an automatic red-eye correcting section (18) comprising an automatic red-eye detecting subsection (20) for extracting a face region from the subject in a captured image wherein the image was captured using a flash setting to automatically detection red-eye (page 2, paragraph 31). In addition, Matsushita discloses that method for detecting red-eye include extracting a face region of a subject by using edge detection, shape pattern detection or face detection (page 3, paragraph 44). Thus, it can be seen that the Matsushita reference discloses an area detection unit (automatic red-eye detecting subsection 20) configured to detect, on the basis of a captured image of an object photographed based on a light emission (flash), an edge in

the captured image of the object to determine an area occupied by a predetermined shape defined by the edge in the captured image of the object (automatic red-eye detecting subsection 20 extracts a face region by using edge detection). Therefore, it would have been obvious for one skilled in the art to have been motivated to include an automatic red-eye detecting subsection as disclosed by the Matsushita reference in the image capturing apparatus including a pre-light emission prior to a main light emission and a control unit configured to photograph an object by controlling a light emitting unit on the basis of a calculated main light emitting amount disclosed by the combination of the Sannoh and Nozaki references. Doing so would provide a means for ensuring that images captured during a pre-light emission are free from red-eye defects by detecting and correcting the red-eye defects.

Re claims 4 and 16, Sannoh further states that the camera is capable of detecting a shape of a face of a person in an image captured by the camera (page 6, paragraphs 99-102; page 13, paragraph 195; page 14, paragraphs 203-212).

Re claims 5 and 17, Sannoh further discloses a focusing unit (CPU 115a controls auto-focusing operations) configured to measure a distance to an object to be photographed (page 6, paragraphs 91-93, page 13, paragraphs 188-189). Sannoh also states that a light control area setting unit (CPU 115a) sets the light control area in accordance with the distance measured by the focusing unit (CPU 115a), and the area detected by the area detection unit (CPU 115a) (the light emission is adjusted according

to the auto-focusing operations and the face detection operation (page 13, paragraphs 188-189; page 14, paragraph 203-page 15, paragraph 218).

Re claims 6 and 18, Nozaki states that an irradiation light amount upon the pre-light emission is adjusted on the basis of the distance measured by a focusing unit, a set aperture value and the sensitivity of an image sensing element (shutter speed and aperture value are calculated by AE calculator) (page 12, paragraphs 118-120).

Re claims 7 and 19, Nozaki states that the emitting light quantity of a light emitting device upon actual shooting is determined on the basis of the reflected light from the face of a subject upon a pre-emitting operation (page 12, paragraph 120). Thus, it can be seen that an arithmetic (CPU) unit calculates an average brightness value based on the pre-light emission in an adjusted light control area, and calculates the main light emitting amount on the basis of the average brightness value.

Re claims 8 and 20, Sannoh states that when a face detection operation mode is set, the arithmetic unit (IPP 104) calculates average brightness values in each of the different respective detected areas and calculates an calculates the main light emitting amount on the basis of the calculated average brightness values (page 14, paragraphs 201-204). Additionally, Nozaki states that the emitting light quantity of a light emitting device upon actual shooting is determined on the basis of the reflected light from the face of a subject upon a pre-emitting operation (page 12, paragraph 120). Thus, it can

be seen that an arithmetic (CPU) unit calculates an average brightness value based on the pre-light emission in an adjusted light control area, and calculates the main light emitting amount on the basis of the average brightness value.

Re claims 9 and 21, Sannoh discloses a focusing unit (CPU 115a controls auto-focusing operations) configured to measure a distance to an object to be photographed (page 6, paragraphs 91-93, page 13, paragraphs 188-189). Sannoh also states that a light control area setting unit (CPU 115a) sets the light control area in accordance with the distance measured by the focusing unit (CPU 115a), and the area determined by the area detection unit (CPU 115a) (the light emission is adjusted according to the auto-focusing operations and the face detection operation (page 13, paragraphs 188-189; page 14, paragraph 203-page 15, paragraph 218). Thus, it can be seen that when it is determined that the area set in accordance with the distance measured by the focusing unit (CPU 115a controls auto-focusing operations) does not match the area determined by the area detection unit (CPU 115a sets the face detection area), the light control area setting unit (CPU 115a determines an area to be exposed to a light emission) in accordance with the distance measured by the focusing unit to the area detected by the area detection unit and sets the adjusted area as a light control area (the face detection area is used to control light emission and the camera is adjusted using the auto focus operation so that the face detection area is always an in-focus area).

Re claims 10 and 22, Sannoh further discloses that the distance is adjusted based on a focusing position of a lens (page 6, paragraphs 91-93).

Re claim 24, the combination of the Sannoh and Nozaki references discloses all of the limitations of claim 15 above. Additionally, Sannoh states that the control method disclosed may be executed through the use of a computer-readable storage medium storing a program (page 4, paragraph 69).

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is **(571) 272-7312**. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached at **(571) 272-7593**. The fax phone number for submitting all Official communications is **(571) 273-7300**. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at **(571) 273-7312**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2622

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kelly L. Jerabek/

Patent Examiner, Art Unit 2622